

## **REMARKS**

In the Official Action mailed on **9 August 2007**, the Examiner reviewed claims 1-41. Claims 1, 14, 17, 23, 27 and 33 were objected to. Claims 1-41 were provisionally rejected on the ground of nonstatutory double patenting over claims 1-45 of copending Application No. 10/812,200. Claims 1-16, and 33-41 were rejected under 35 U.S.C. § 103(a) based on Goldenberg et al. (USPN 7,245,627 hereinafter “Goldenberg”), and Malek (USPN 6,785,775 hereinafter “Malek”). Claims 17-32 were rejected under 35 U.S.C. § 102(e) based on Goldenberg.

### **Claim objection**

Claims 1, 14, 17, 23, 27 and 33 were objected to because of informalities. Applicant has amended claims 1, 14 and 27 to remove the “first” in front of phrases “virtual lane”, “linked list” and “bucket”. Note that multiple queue pairs are mentioned in the claims; thus the phrase “first queue pair” is used to distinguish a particular queue pair. Claims 17, 23 and 33 do not claim a first queue pair, virtual lane, or bucket. Applicant has also amended claims 31 and 32 removing “first” in front of the phrase “linked list”.

### **Double Patenting Rejection**

Claims 1-41 were rejected on the ground of nonstatutory double patenting over claims 1-45 of copending Application No. 10/812,200.

Applicant respectfully submits the attached terminal disclaimer with respect to the above US patent Application No. 10/812,200 to obviate any provisional or actual rejection of double patenting.

### **Rejections under 35 U.S.C. § 102(e) and § 103(a)**

Claims 1-16 and 33-41 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Goldenberg in view of Malek. Claims 17-32 were rejected under 35 U.S.C. § 102(e) as being anticipated by Goldenberg. Applicant respectfully disagrees because Goldenberg and Malek do not teach allowing traffic from different virtual lanes and/or queue pairs to share a single contiguous memory.

Goldenberg discloses sharing a network interface card (NIC) among multiple hosts by mapping multiple hosts to one NIC port (see col. 3-4, ll. 57-11 of Goldenburg). A scheduler is used to queue and schedule the message into **multiple scheduling queues** with different levels of service. In particular, Goldenberg teaches away from sharing a single memory by saying “*Preferably, the unpacking unit maintaining **multiple scheduling queues** with different level of service...Most preferably, there is a **separate queue structure**, ...*” (see col. 12, ll. 26-35 of Goldenburg). Note that service levels are mapped to virtual lanes (see col. 2, ll. 63-67 of Goldenburg).

Malek discloses using a flush buffer to enhance efficiency (see col. 3, ll. 60-67 of Malek), and maintaining copies of cache lines in the HCA to eliminate unnecessary snoop/purge operation (see col. 4, ll. 30-55 of Malek). Although Examiner referenced Malek for the utilization of a single header cache line, it is not equivalent to a single memory structure, since there are **many cache lines** maintained as copies (see col. 4, ll. 49-50 of Malek).

There is nothing in Goldenberg and Malek, either explicit or implicit, that teaches using a single contiguous memory to accommodate traffic received on multiple virtual lanes and queue pairs.

Accordingly, Applicant has amended claims 1, 14, 17, 23, 27, 31, and 33 to clarify that the present invention allows a single contiguous memory structure to be shared by different virtual lanes and queue pairs. These amendments find

supports in page 4, ll. 8-15 and page 12, ll. 3-8 of the instant application. No new matter has been added.

Hence, Applicant respectfully submits that independent claims 1, 14, 17, 23, 27, 31 and 33 as presently amended are in condition for allowance. Applicant also submits that claims 2-3, 5-7, 12-13, which depend upon claim 1, claim 4, which depends upon claim 3, claims 8-9 and 11, which depend upon claim 7, claim 10, which depends upon claim 9, claims 15-16, which depend upon claim 14, claims 18-22, which depend upon claim 17, claims 24-26, which depend upon claim 23, claims 28-29, which depend upon claim 27, claim 30, which depends upon claim 29, claim 32, which depends upon claim 31, claims 34-35, 37-41, which depend upon claim 33, and claim 36, which depends upon claim 35, are for the same reasons in condition for allowance and for reasons of the unique combinations recited in such claims.

## **CONCLUSION**

It is submitted that the present application is presently in form for allowance. Such action is respectfully requested.

Respectfully submitted,

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